2. (Amended) A process of producing a recombinant integrin subunit α11 having the amino acid sequence shown in SEQ ID No. 1, and homologues and fragments thereof, which process comprises the steps of

a) isolating a polynucleotide comprising a nucleotide sequence coding for a integrin subunit α11, of for homologues and fragments thereof,

b) constructing an expression vector comprising the isolated polynucleotide,

c) transforming a host cell with said expression vector,

d) culturing said transformed host cell in a culture medium under conditions suitable for expression of said integrin subunit α11, of said homologues and fragments, in said transformed host cell, and, optionally,

e) isolating the integrin subunit α11, or homologues and fragments thereof, from said transformed host cell or said culture medium.

6. (Amended) An isolated polynucleotide or oligonucleotide comprising a nucleotide coding for an integrin subunit α11, or for homologues or fragments thereof, which polynucleotide or oligonucleotide having the nucleotide sequence shown in SEQ ID No. 1 or suitable parts thereof.

7. (Amended) An isolated polynucleotide or oligonucleotide which hybridises to a polynucleotide or oligonucleotide as defined in claim 6, whereby said isolated polynucleotide or oligonucleotide fails to hybridise to a polynucleotide or oligonucleotide encoding an integrin subunit α10.

8. (Amended) A vector comprising a polynucleotide or oligonucleotide as defined in claim 6.

10. (Amended) A cell, as generated by the process in steps a) to c) of claim 2, in which a polynucleotide or oligonucleotide coding for an integrin subunit α11, or for homologues and fragments thereof, has been stably integrated in the cell genome, said polynucleotide or oligonucleotide having the nucleotide sequence shown in SEQ ID No. 1 or fragments thereof.

13. (Amended) A recombinant or isolated integrin heterodimer comprising a subunit α11 and a subunit β, the subunit α11 having the amino acid sequence shown in SEQ ID No. 1 or homologues or fragments thereof.

14. (Amended) A recombinant or isolated integrin heterodimer according to claim 13, wherein the subunit β is β1.

15. (Amended) A process of producing a recombinant integrin heterodimer comprising a subunit α11 and a subunit β, the subunit α11 having the amino acid sequence shown in SEQ ID No. 1, or homologues or fragments thereof, which process comprises the steps of

a) isolating one polynucleotide or oligonucleotide comprising a nucleotide sequence coding for said subunit α11 of said integrin heterodimer, or for said homologues or fragments thereof, and, optionally, another polynucleotide comprising a nucleotide

sequence coding for said subunit β of an integrin heterodimer, or for homologues or fragments thereof,

b) constructing an expression vector comprising said isolated polynucleotides or oligonucleotides

c) transforming a host cell with said expression vector or vectors,

d) culturing said transformed host cell in a culture medium under conditions suitable for expression of said integrin heterodimer, or said homologues or fragments thereof, in said transformed host cell, and, optionally,

e) isolating said integrin heterodimer, or said homologues or fragments thereof, from said transformed host cell or said culture medium.

18. (Amended) A process of providing an integrin heterodimer comprising a subunit α11 and a subunit β, as defined in claim 14, or homologues or fragments thereof, whereby said integrin heterodimer is isolated from a cell in which it is naturally present.

19. (Amended) A cell containing

i) a first vector, said first vector comprising a polynucleotide or oligonucleotide coding a subunit α11 of an integrin heterodimer, or for homologues or fragments thereof, which polynucleotide or oligonucleotide has the nucleotide sequence shown in SEQ ID No. 1 or parts thereof, and

ii) a second vector, said second vector comprising a polynucleotide or oligonucleotide coding for a subunit of said integrin heterodimer.

20. (Amended) Binding sites of an integrin heterodimer as defined in claim 14, or of homologues or fragments thereof, said binding sites having the capability of binding specifically to entities chosen among the group comprising proteins, peptides, carbohydrates, lipids, natural integrin binding ligands, polyclonal and monoclonal antibodies, and fragments thereof.

21. (Amended) Binding entities having the capability of binding specifically to an integrin heterodimer as defined in claim 14, or to homologues or fragments thereof, said binding entities being chosen among the group comprising proteins, peptides, carbohydrates, lipids, .natural integrin binding ligands, polyclonal and monoclonal antibodies, and fragments thereof.

22. (Amended) A fragment of an integrin subunit α11, which integrin subunit α11 has the amino acid sequence shown in SEQ ID No: 1, said fragment being a peptide chosen from the group comprising peptides of the cytoplasmic domain, the I-domain and the extracellular extension region.

23. (Amended) A fragment according to claim 22, said fragment being a peptide from the cytoplasmic domain having the amino acid sequence

KLGFFRSARRRREPGLDPTPKVLE.

24. (Amended) A fragment according to claim 22, which is a peptide having the amino acid sequence of the extracellular domain, from about amino acid No. 804 to about amino acid no. 826 of SEQ ID No. 1.

25. (Amended) A fragment according to claim 22, which is a peptide having the amino acid sequence of the I-domain, from about amino acid No. 159 to about amino acid no. 355 of SEQ ID No. 1.

26. (Amended) A method of producing a fragment of the integrin subunit α11 as defined in claim 22, which method comprises a sequential addition of amino acids.

27. (Amended) A polynucleotide or oligonucleotide coding for a fragment of the integrin subunit α11 as defined in claim 22.

28. (Amended) Binding sites of an integrin subunit α11 fragment as defined in claim 22, said binding sites having the capability of binding specifically to entities chosen from the group comprising proteins, peptides, carbohydrates, lipids, natural integrin binding ligands, monoclonal and polyclonal antibodies, and fragments thereof.

29. (Amended) Binding entities having the capability of binding specifically to an integrin subunit α11 fragment as defined in claim 22, which binding entities are chosen from the group comprising proteins, peptides, carbohydrates, lipids, natural integrin binding ligands, monoclonal and polyclonal antibodies, and fragments thereof.

30. (Amended) A process of using an integrin subunit α11 having the amino acid sequence shown in SEQ ID No.1 or an integrin heterodimer comprising said subunit α11 and a subunit β, or homologues or fragments thereof, as a marker or target molecule of cells or tissues expressing said integrin subunit α11, which cells or tissues are of animal origin, comprising

introducing an integrin subunit α11 according to claim 1, or an integrin heterodimer comprising said subunit α11 and a subunit β into a cell or tissue of animal origin, and

allowing said subunit or heterodimer to bind to a target molecule of cells or tissues expressing said integrin subunit α11.

33. (Amended) A process according to claim 31, which pathological conditions are selected from the group consisting of damage of muscles, muscle dystrophy, fibrosis and wound healing.

34. (Amended) A process according to claim 31, which pathological conditions are selected from the group consisting of damage of cartilage and/or bone, and cartilage and/or bone diseases.

35. (Amended) A process according to claim 31, which pathological conditions are selected from the group consisting of trauma, rheumatoid arthritis, osteoarthritis and osteoporosis.

41. (Amended) A process according to claim 30, which is an *in vitro* process.

42. (Amended) A process according to claim 30, which is an *in situ* process.

43. (Amended) A process according to claim 30, which is an *in vivo* process.

44. (Amended) A process according to claim 30, whereby a fragment of said integrin subunit α11 is a peptide chosen from the group comprising peptides of the cytoplasmic domain, the I-domain and the extracellular extension region.

45. (Amended) A process according to claim 44, whereby said fragment is a peptide having the amino acid sequence KLGFFRSARRRREPGLDPTPKVLE from the cytoplasmic domain.

46. (Amended) A process according to claim 44, whereby said fragment is a peptide having the amino acid sequence of the extracellular domain, from about amino acid No. 804 to about amino acid no. 826 of SEQ ID No. 1.

47. (Amended) A process according to claim 44, whereby said fragment is a peptide having the amino acid sequence of the I-domain, from about amino acid No. 159 to about amino acid no. 355 of SEQ ID No. 1.

48. (Amended) A process according to claim 30, whereby a subunit β of the integrin heterodimer is β1.

50. (Amended) A process of using binding entities having the capability of binding specifically to binding sites of an integrin subunit α11 having the amino acid sequence shown in SEQ ID No. 1, or an integrin heterodimer comprising said subunit α11 and a subunit β, or to homologues or fragments thereof, as markers or target molecules of cells or tissues expressing said integrin subunit α11, which cells or tissues are of animal origin.

51. (Amended) A process according to claim 50, which is a process for detecting the presence of an integrin subunit α11 having the amino acid sequence shown in SEQ ID No. 1, or of an integrin heterodimer comprising said subunit α11 and a subunit β, or of homologues or fragments thereof.

54. (Amended) A process according to claim 52, which pathological conditions are selected from the group consisting of damage of muscles, muscle dystrophy, fibrosis and wound healing.

55. (Amended) A process according to claim 52, which pathological conditions are selected from the group consisting of damage of cartilage and/or bone, and cartilage and/or bone diseases.

56. (Amended) A process according to claim 52, which pathological conditions are selected from the group consisting of trauma, rheumatoid arthritis, osteoarthritis and osteoporosis.

62. (Amended) A process according to claim 50, which is an *in vitro* process.

63. (Amended) A process according to claim 50, which is an *in situ* process.

64. (Amended) A process according to claim 50, which is an *in vivo* process.

65. (Amended) A process according to claim 50, whereby a fragment of said integrin subunit $\alpha 11$ is a peptide chosen from the group comprising peptides of the cytoplasmic domain, the I-domain and the extracellular extension region.

66. (Amended) A process according to claim 65, whereby said fragment is a peptide having the amino acid sequence KLGFFRSKRRRREPGLDPTPKVLE from the cytoplasmic domain.

67. (Amended) A process according to claim 65, whereby said fragment is a peptide having the amino acid sequence of the extracellular domain, from about amino acid No. 804 to about amino acid no. 826 of SEQ ID No. 1.

68. (Amended) A process according to claim 65, whereby said fragment is a peptide having the amino acid sequence of the I-domain, from about amino acid No. 159 to about amino acid no. 355 of SEQ ID No. 1.

69. (Amended) A process according to claim 50, whereby a subunit β of the integrin heterodimer is β1.

71. (Amended) A process for detecting the presence of an integrin subunit α11, or of homologues or fragments of said integrin subunit, on cells, whereby a polynucleotide or oligonucleotide chosen from the group comprising a polynucleotide or oligonucleotide having the nucleotide sequence as shown in SEQ ID No. 1, or homologues or fragments thereof, is used as a marker under hybridization conditions, wherein said polynucleotide or oligonucleotide fails to hybridize to a polynucleotide or oligonucleotide encoding an integrin subunit α10.

74. (Amended) A process according to claim 72, which pathological conditions are selected from the group consisting of damage of muscles, muscle dystrophy, fibrosis and wound healing.

75. (Amended) A process according to claim 72, which pathological conditions are selected from the group consisting of damage of cartilage and/or bone, and cartilage and/or bone diseases.

76. (Amended) A process according to claim 72, which pathological conditions are selected from the group consisting of trauma, rheumatoid arthritis, osteoarthritis and osteoporosis.

82. (Amended) A process according to claim 71, which is an *in vitro* process.

83. (Amended) A process according to claim 71, which is an *in situ* process.

84. (Amended) A process according to claim 71, which is an *in vivo* process.

85. (Amended) A process according to claim 71, whereby said polynucleotide or oligonucleotide is a polynucleotide or oligonucleotide coding for a peptide chosen from the group consisting of peptides of the cytoplasmic domain, the I-domain and the extracellular extension region.

86. (Amended) A process according to claim 85, whereby said peptide is a peptide having the amino acid sequence KLGFFRSARRRREPGLDPTPKVLE from the cytoplasmic domain.

87. (Amended) A process according to claim 85, whereby said peptide is a peptide having the amino acid sequence of the extracellular domain, from about amino acid No. 804 to about amino acid no. 826 of SEQ ID No. 1.

88. (Amended) A process according to claim 85, whereby said peptide is a peptide having the amino acid sequence of the I-domain, from about amino acid No. 159 to about amino acid no. 355 of SEQ ID No. 1.

89. (Amended) A process according to claim 71, whereby a subunit β of the integrin heterodimer is β1.

94. (Amended) A vaccine comprising as an active ingredient at least one member of the group consisting of an integrin heterodimer, which heterodimer comprises a subunit α11 and a subunit β, or the subunit α11 thereof, and homologues or fragments of

said integrin or subunit α11, and a polynucleotide and a oligonucleotide coding for said integrin subunit α11.

95. (Amended) A method of gene therapy, whereby vector comprising a polynucleotide or oligonucleotide coding for a subunit α11 of an integrin heterodimer, or for homologues or fragments thereof, which polynucleotide or oligonucleotide has the nucleotide sequence shown in SEQ ID No: 1 or parts thereof, and optionally a second vector comprising a polynucleotide or oligonucleotide coding for a subunit β of said integrin heterodimer, is administered to a subject suffering from pathological conditions involving said subunit α11.

96. (Amended) A method of promoting adhesion of cells comprising introducing to a cell sample binding entities having the capability of binding specifically to binding sites of a integrin subunit α11 comprising substantially the amino acid sequence shown in SEQ ID No. 1, or of an integrin heterodimer comprising said subunit α11 and a subunit β, or to homologues or fragments thereof.

97. (Amended) A method of targeting for antiadhesive drugs or molecules in tissues comprising adding to a tissue an integrin heterodimer comprising an integrin subunit α11 and a subunit β, or the subunit α11 thereof, or homologues or fragments of said integrin or subunit α11, as a target for antiadhesive drugs or molecules in tissues where adhesion impairs the function of the tissue.

98. (Amended) A method of in vitro detecting the presence of integrin binding entities, comprising introducing an integrin heterodimer comprising a subunit α11 and a

subunit β, or the subunit α11 thereof, or homologues or fragments of said integrin or subunit, to a sample, thereby causing said integrin, subunit α11, or homologue or fragment thereof, to modulate the binding to its natural ligand or other integrin binding proteins present in said sample.

99. (Amended) A method of in vitro studying consequences of the interaction of a human heterodimer integrin comprising introducing a subunit α11 and a subunit β, or the subunit α11 thereof, or homologues or fragments of said integrin or subunit, with an integrin binding entity and thereby initiate a cellular reaction, and observing said cellulor reaction.

101. (Amended) A method of targeting molecules comprising introducing a polynucleotide or oligonucleotide encoding an integrin subunit α11 or homologues or fragments thereof.

102. (Amended) A method according to claim 101, comprising hybridizing a polynucleotide or oligonucleotide to the DNA or RNA encoding the integrin subunit α11 or homologue or fragment thereof, which polynucleotide or oligonucleotide fails to hybridise to a polynucleotide or oligonucleotide encoding an integrin subunit α10.

103. (Amended) A method of promoting adhesion of chondrocytes and/or osteoblasts to surfaces of implants to stimulate osseointegration comprising introducing binding entities having the capability of binding specifically to an integrin subunit α11 comprising the amino acid sequence shown in SEQ ID No. 1 or SEQ ID No. 2, or an integrin heterodimer comprising said subunit α11 and a subunit β, or to homologues or

fragments thereof having similar biological activity, to surfaces of implants wherein said binding entities stimulate osseointegration.

104. (Amended) A method of targeting for antiadhesive drugs or molecules in tendon, ligament, skeletal muscle or other tissues comprising

introducing an integrin heterodimer comprising an integrin subunit α11 and a subunit β, or the subunit α11 thereof, or homologues or fragments of said integrin or subunit α11, and

monitoring for adhesion.

105. (Amended) A method of stimulating, inhibiting or blocking the formation of cartilage or bone, comprising administration to a subject a suitable amount of a pharmaceutical agent or an antibody which is capable of targeting an integrin heterodimer comprising a subunit α11 and a subunit β, or the subunit α11 thereof, or homologues or fragments of said integrin or subunit α11.

Please add the following new claims.

--106. A recombinant or isolated integrin subunit α11 having the amino acid sequence shown in SEQ ID No. 1.

107. A process of producing a recombinant integrin subunit α11 as recited in claim 106, which process comprises the steps of

a) isolating a polynucleotide comprising a nucleotide sequence coding for a integrin subunit α11,

b) constructing an expression vector comprising the isolated polynucleotide,

c) transforming a host cell with said expression vector,

d) culturing said transformed host cell in a culture medium under conditions suitable for expression of said integrin subunit α11 in said transformed host cell, and, optionally,

e) isolating the integrin subunit α11 from said transformed host cell or said culture medium.

108. An isolated polynucleotide or oligonucleotide comprising a nucleotide coding for an integrin subunit α11, which polynucleotide or oligonucleotide comprises the nucleotide sequence shown in SEQ ID No. 1 or suitable parts thereof sufficient for expression of an integrin subunit α11.

109. An isolated polynucleotide or oligonucleotide which hybridizes to a polynucleotide or oligonucleotide as defined in claim 108, whereby said isolated polynucleotide or oligonucleotide fails to hybridize to a polynucleotide or oligonucleotide encoding an integrin subunit α10.

110. A vector comprising a polynucleotide or oligonucleotide as defined in claim 108.

111. A cell containing the vector as defined in claim 110.

112. An isolated nucleic acid encoding an integrin subunit, wherein the nucleic acid encodes amino acid nos. 804 to 826 of SEQ ID No:1.

113. Binding sites of the amino acid sequence of the integrin subunit α11, as defined in claim 106, said binding sites having the capability of binding specifically to a member selected from the group consisting of proteins, peptides, carbohydrates, lipids, natural integrin binding ligands, polyclonal and monoclonal antibodies, and fragments thereof.

114. Binding entities having the capability of binding specifically to integrin subunit α11, as defined in claim 106, which entities are selected from the group consisting of proteins, peptides, carbohydrates, lipids, natural integrin binding ligands, polyclonal and monoclonal antibodies, and fragments thereof.

115. A recombinant or isolated integrin heterodimer comprising a subunit α11 as recited in claim 106 and a subunit β.

116. A recombinant or isolated integrin heterodimer according to claim 115, wherein the subunit β is β1.

117. A process of producing a recombinant integrin heterodimer according to claim 115, which process comprises the steps of

a) isolating one polynucleotide or oligonucleotide comprising a nucleotide sequence coding for said subunit α11 of said integrin heterodimer, and another polynucleotide comprising a nucleotide sequence coding for said subunit β of an integrin heterodimer,

b) constructing an expression vector comprising said isolated polynucleotides or oligonucleotides

c) transforming a host cell with said expression vector or vectors,

d) culturing said transformed host cell in a culture medium under conditions suitable for expression of said integrin heterodimer in said transformed host cell, and, optionally,

e) isolating said integrin heterodimer from said transformed host cell or said culture medium.

118. A cell containing

i) a first vector, said first vector comprising a polynucleotide or oligonucleotide coding a subunit α11 of an integrin heterodimer, as recited in claim 106, and

ii) a second vector, said second vector comprising a polynucleotide or oligonucleotide coding for a subunit of said integrin heterodimer.

119. Binding sites of an integrin heterodimer as defined in claim 115, said binding sites having the capability of binding specifically to entities chosen among the group comprising proteins, peptides, carbohydrates, lipids, natural integrin binding ligands, polyclonal and monoclonal antibodies, and fragments thereof.

120. Binding entities having the capability of binding specifically to an integrin heterodimer as defined in claim 115, said binding entities being chosen among the group comprising proteins, peptides, carbohydrates, lipids, natural integrin binding ligands, polyclonal and monoclonal antibodies, and fragments thereof.

121. A fragment of an integrin subunit α11, said integrin subunit α11 having the amino acid sequence shown in SEQ ID No: 1, said fragment being a peptide chosen from the group comprising peptides of the cytoplasmic domain, the I-domain and the extracellular extension region.

122. A fragment according to claim 121, said fragment being a peptide from the cytoplasmic domain having the amino acid sequence

KLGFFRSARRRREPGLDPTPKVLE.

123. A fragment according to claim 121, which is a peptide having the amino acid sequence of the extracellular domain, from about amino acid No. 804 to about amino acid no. 826 of SEQ ID No. 1.

124. A fragment according to claim 121, which is a peptide having the amino acid sequence of the I-domain, from about amino acid No. 159 to about amino acid no. 355 of SEQ ID No. 1.

125. A polynucleotide or oligonucleotide coding for a fragment of the integrin subunit α11 as defined in claim 121.

126. Binding sites of an integrin subunit α11 fragment as defined in claim 121, said binding sites having the capability of binding specifically to entities chosen from the group comprising proteins, peptides, carbohydrates, lipids, natural integrin binding ligands, monoclonal and polyclonal antibodies, and fragments thereof.

127. Binding entities having the capability of binding specifically to an integrin subunit α11 fragment as defined in claim 121, which binding entities are chosen from the

group comprising proteins, peptides, carbohydrates, lipids, natural integrin binding ligands, monoclonal and polyclonal antibodies, and fragments thereof.

128. A process of using an integrin subunit α11 according to claim 106, or an integrin heterodimer comprising said subunit α11 and a subunit β, as a marker for target molecule of cells or tissues expressing said integrin subunit α11, comprising

introducing said integrin subunit or integrin heterodimer into a cell or tissue of animal origin, and

allowing said subunit or heterodimer to bind to a target molecule of cells or tissues expressing said integrin subunit α11.

129. A process for determining the differentiation-state of cells during differentiation, development, in pathological conditions, in tissue regeneration, in transplantation, or in therapeutic and physiological reparation of tissues, comprising

introducing an integrin subunit α11 according to claim 106, or an integrin heterodimer comprising said subunit α11 and a subunit β into a cell or tissue of animal origin, and

allowing said subunit or heterodimer to bind to a target molecule of cells or tissues expressing said integrin subunit α11.

130. A process according to claim 129, which process is used during pathological conditions involving said subunit α11.

131. A process according to claim 130, which pathological conditions are selected from the group consisting of damage of muscles, muscle dystrophy, fibrosis and wound healing.

132. A process according to claim 130, which pathological conditions are selected from the group consisting of damage of cartilage and/or bone, and cartilage and/or bone diseases.

133. A process according to claim 130, which pathological conditions are selected from the group consisting of trauma, rheumatoid arthritis, osteoarthritis and osteoporosis.

134. A process according to claim 129, whereby a fragment of said integrin subunit α11 is introduced, said fragment being a peptide selected from the group consisting of peptides of the cytoplasmic domain, the I-domain and the extracellular extension region.

135. A process according to claim 134, whereby said fragment is a peptide comprising essentially the amino acid sequence KLGFFRSARRRREPGLDPTPKVLE from the cytoplasmic domain.

136. A process according to claim 134, whereby said fragment is a peptide having the amino acid sequence of the extracellular domain, from about amino acid No. 804 to about amino acid no. 826 of SEQ ID No. 1.

137. A process according to claim 134, whereby said fragment is a peptide having the amino acid sequence of the I-domain, from about amino acid No. 159 to about amino acid no. 355 of SEQ ID No. 1.

138. A process according to claim 129, whereby a subunit β of the integrin heterodimer is β1.

139. A process for detecting the presence of an integrin subunit α11 on cells, comprising

introducing a polynucleotide or oligonucleotide according to claim 125, or homologues or fragments thereof, into a cell, and

detecting hybridization of said polynucleotide or oligonucleotide, under conditions sufficient to allow hybridization of said polynucleotide or oligonucleotide to an integrin subunit α11,

wherein said polynucleotide or oligonucleotide does not hybridize to a polynucleotide or oligonucleotide encoding an integrin subunit α10.

140. A process according to claim 139, whereby said polynucleotide or oligonucleotide is a polynucleotide or oligonucleotide coding for a peptide selected from the group consisting of peptides of the cytoplasmic domain, the I-domain and the extracellular extension region.

141. A process according to claim 140, whereby said peptide is a peptide having the amino acid sequence KLGFFRSARRRREPGLDPTPKVLE from the cytoplasmic domain.

142. A process according to claim 140, whereby said peptide is a peptide having the amino acid sequence of the extracellular domain, from about amino acid No. 804 to about amino acid no. 826 of SEQ ID No. 1.

143. A process according to claim 140, whereby said peptide is a peptide having the amino acid sequence of the I-domain, from about amino acid No. 159 to about amino acid no. 355 of SEQ ID No. 1.

144. A pharmaceutical composition comprising as an active ingredient a pharmaceutical agent or an antibody which is capable of using an integrin heterodimer comprising a subunit α11 as recited in claim 106 and a subunit β, or the subunit α11 thereof, as a target molecule.

145. A pharmaceutical composition comprising as an active ingredient a pharmaceutical agent or an antibody which is capable of stimulating cell surface expression or activation of an integrin heterodimer comprising a subunit α11 as recited in claim 106 and a subunit β, or the subunit α11 thereof.

146. A vaccine comprising as an active ingredient at least one member selected from the group consisting of an integrin heterodimer, which heterodimer comprises a subunit α11 as recited in claim 106 and a subunit β, or the subunit α11 thereof.

147. A method of gene therapy, whereby vector comprising a polynucleotide or oligonucleotide coding for a subunit α11 of an integrin heterodimer, or for homologues or fragments thereof, which polynucleotide or oligonucleotide comprises essentially the nucleotide sequence shown in SEQ ID No: 1 or parts thereof, and optionally a second vector comprising a polynucleotide or oligonucleotide coding for a subunit β of said integrin heterodimer, is administered to a subject suffering from pathological conditions involving said subunit α11.

148. A method of stimulating, inhibiting or blocking the formation of cartilage or bone, comprising administering to a subject in need of such treatment an effective amount of a pharmaceutical agent or an antibody which is capable of using an integrin heterodimer comprising a subunit α11 as recited in claim 106 and a subunit β, or the subunit α11 thereof, as a target molecule.

149. A fragment of an integrin subunit α11, said fragment being a peptide from the cytoplasmic domain having the amino acid sequence

KLGFFRSARRRREPGLDPTPKVLE.--

REMARKS

Prior to examination of the above-identified application, entry of the foregoing, and consideration of the above amendments are respectfully requested.

The claims were previously amended in the International Preliminary Examination Report (attached hereto). Applicant further amends claims 1, 2, 6-8, 10, 13-15, 18-30, 33-35, 41-48, 50, 51, 54-56, 62-69, 71, 74-76, 82-89, 94-99 and 101-105 to delete multiple dependencies and to place the claims in more proper U.S. claim format. These amendments are not narrowing in scope. New claims 106-149 have been added to recite additional preferred embodiments of the invention. It is respectfully submitted that no new matter has been added by the above amendments.

In the event that there are any questions relating to this Preliminary Amendment, or to the application in general, it would be appreciated if the Examiner would telephone the